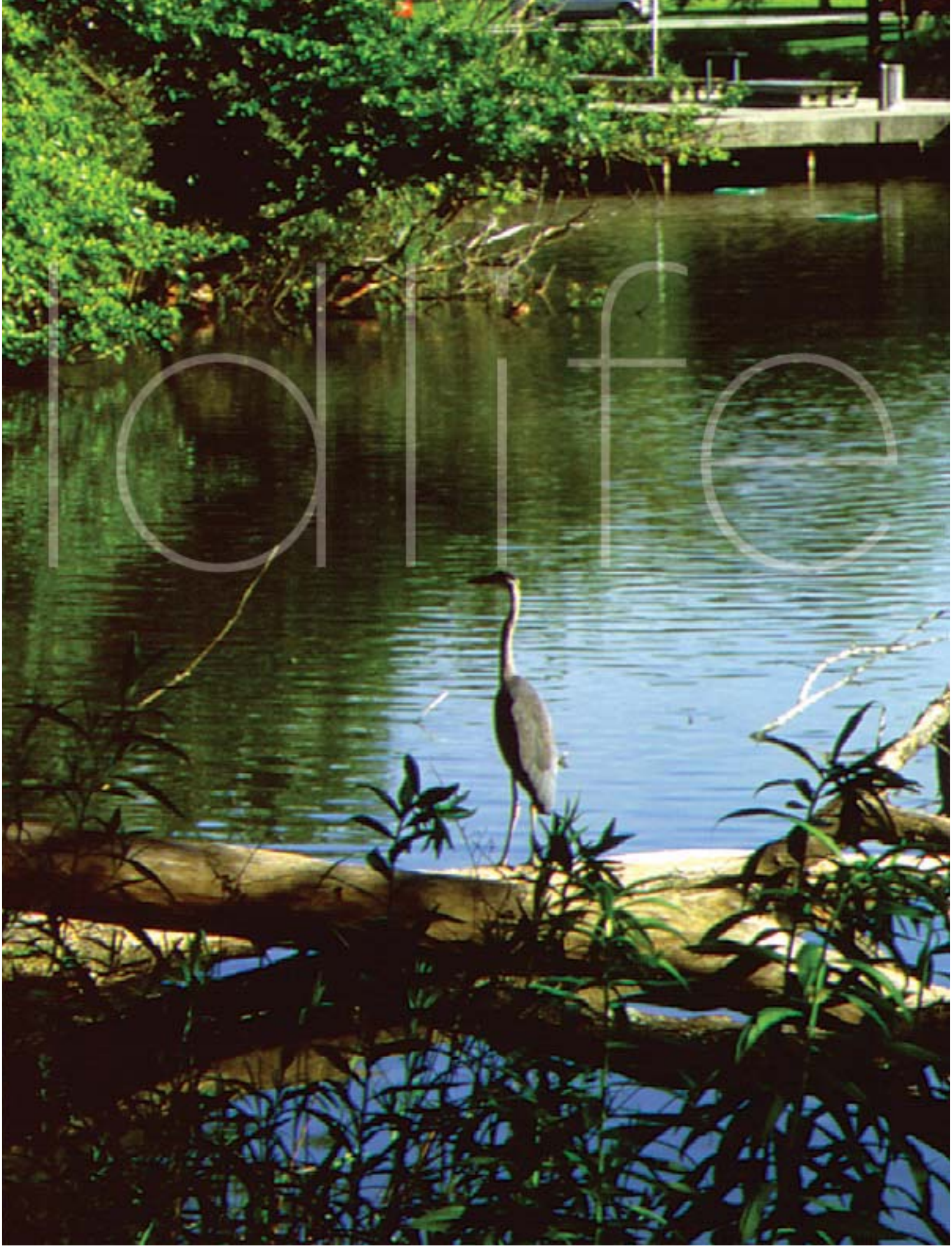
CHICAGO NATURE & WILDLIFE PLAN


portfolio

Chicago Nature and Wildlife Plan

a strategy to enhance natural habitats within the City of Chicago

Plan

CHICAGO NATURE & WILDLIFE PLAN

« Cover Photo - Cup plant in Gompers Park (Jill Riddell)
Inside Cover (in order of appearance) - Dune restoration at the South Shore Nature Sanctuary (Jin Lee), red-winged blackbird nestlings (Jim Nachel), great blue heron at the North Pond in Lincoln Park (Jin Lee)

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INTRODUCTION	**OBJECTIVES**	**PROTECT**	**MANAGE**	**MONITOR**	**EDUCATE**	**DIRECTORY**	**APPENDICES**	**ACKNOWLEDGEMENTS**

PREPARED AND PUBLISHED BY

Chicago Department of Planning
and Development and Mayor Daley's
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Introduction

By Richard M. Daley, Mayor

Nature is an integral and important part of Chicago's fabric and in that spirit I am proud to present this plan to help improve and increase habitats for nature and wildlife across the city.

Based on an inventory of city land, the Chicago Nature and Wildlife Plan identifies over 4,800 acres of prairies, savannas, dunes, woodlands, wetlands and potential restoration areas at 100 sites throughout Chicago. The plan lays out a framework to protect and expand these individual sites as well as the whole landscapes they belong to. It also suggests methods to make our environment friendlier to plants and animals native to northeastern Illinois.

One of the important roles Chicago plays for nature and wildlife is for birds. Endangered species breed in the wetlands of the Calumet Open Space Reserve and along the North Branch of the Chicago River. It is estimated that seven million birds migrate through and stop in Chicago each year. This plan enhances their chance of survival.

The Plan was prepared by the City of Chicago Department of Planning and Development and the Mayor's Nature and Wildlife Committee with support from over thirty conservation organizations. These citizen groups will also play an important role in the Plan's implementation, particularly in the areas of monitoring, research, education and coordination of volunteers. With approval by the Chicago Plan Commission, the Chicago Nature and Wildlife Plan will become a formal planning and development initiative. It is one important step along the path toward making our city a place where people and nature live in harmony.

Richard M. Daley, Mayor

» OPEN SPACE TERMS *

Biodiversity	Natural Area	Management	Restoration
Short for "biological diversity," which refers to the genes, species, and biological communities of a particular place.	Sites that are relatively undisturbed and possess high quality native plant and animal communities. The term is used more generically in the *Nature & Wildlife Plan* as a place that is of value to nature.	The act of planning and implementing maintenance techniques that help a natural area sustain and increase its populations of native plants and animals.	The process of improving the ecological health of a degraded natural area or creating a natural area where none existed before.

* ADAPTED FROM *A SUMMARY OF THE CHICAGO WILDERNESS BIODIVERSITY RECOVERY PLAN*. (CHICAGO WILDERNESS, 1999.)

Chicago Yesterday

Chicago's natural environment has undergone many changes since glaciers retreated from the upper Midwest more than 14,000 years ago.

More than 90 percent of the land within the city limits was formerly Lake Michigan lakebed that over centuries evolved into gently rolling grasslands and marshes. At the time of European exploration in the late 1600s, tallgrass prairies and oak savannas characterized the area with dunes and marsh predominant near the lakeshore. Swells were distinguished by tall grass and wild quinine, and swales with cord grass, sweet plantains and wild irises. Slow, shallow rivers meandered between dry grass and soggy marsh before emptying in the lake.

With the arrival of permanent settlers in the 1770s, the area's prairies, savannas, and waterfronts underwent numerous manmade changes that coincided with two centuries of rapid population growth. Prairies were reduced to vacant lots between buildings while forested areas dwindled to the outskirts of the expanding community. Marshland was drained and filled to create suitable foundations for new construction.

The Chicago and Calumet rivers were dredged, straightened and/or reversed for industrial purposes and thes natural shorelines of Lake Michigan and Lake Calumet were completely replaced by landfill.

While the ecosystem, hydrology and natural habitat of Chicago was radically altered and degraded within the last 200 years, the City of Chicago remains dedicated to preserving and enhancing what's left.

Chicago's natural environment is visible throughout the city however the bulk of the urban area's natural assets are clustered into several distinct areas:

»	Lake Michigan	Chicago River	Lake Calumet	Des Plaines River
VARIED AND SIZEABLE HABITAT CLUSTERS	Bordered for 24 miles by public open spaces including over 2,500 acres of parkland, 29 beaches, 21 natural areas and 8 harbors.	Bordered by 850 acres of forest preserves, 260 acres of parkland and 25 natural areas, mostly along the North Branch and its tributaries.	Surrounded by the Calumet Open Space Reserve which includes approximately 4,000 acres of wetlands and uplands.	Flows for one mile within the city limits through 1,500 acres of forest preserves.

Starting a Tradition of Landscape Conservation

More than a century ago, two progressive landscape gardeners began experimenting with the use of native plants in Chicago. In the late 1870s, Ossian Cole Simonds began using transplanted native shrubs and trees at Graceland Cemetery and, in 1888, Jens Jensen designed one of North America's first public native plant gardens in Union Park. Their efforts led to the creation of a "Prairie Style" of landscape architecture. Today, Jensen is considered one of the most influential founders of the conservation movement in the Midwest. In addition to his unprecedented use of Midwestern plants for his many privately commissioned projects, he influenced the establishment of the Forest Preserve District of Cook County and he advocated protection efforts at Illinois Beach State Park and the Indiana Dunes. A disciple of Jensen's, Alfred Caldwell, used natural landscapes with his early 20th century designs for lakefront attractions like Promontory Point and Lincoln Park's Montrose Point and the Lily Pool that now bears his name.

» DISTRIBUTION OF HABITAT TYPES WITHIN CITY LIMITS

Forest/Woodland	Aquatic	Wetland	Riparian/ Water Edge
1,772 acres	982 acres	535 acres	290 acres
An area possessing more than 50 percent tree cover.	A permanently wet area with rooted plants growing near the shore.	An area saturated with water for a sufficient part of the year that supports emergent reeds, grass and other aquatic plants.	A transitional area between dry and wet environments.

Chicago Today

The amount of city land that can be characterized as natural habitat was quantified in 2004 as part of a "Chicago Habitat Inventory" project conducted by the Chicago Department of Planning and Development (DPD) through a grant from the U.S.D.A. Forest Service.

DPD staff used mapping tools, aerial imagery, on-site visits and previous inventory studies to estimate total habitat space within the city. The study indicated that approximately 3,800 of the 146,240 acres within the city limits serves as habitat. Additionally, about 920 acres have been identified for habitat restoration. These acreages are distributed among 97 individual sites that are predominantly located along the Chicago River and on the shorelines of Lake Michigan and Lake Calumet.

Though natural habitat comprises less than three percent of the entire city area, all basic types of northeastern Illinois natural areas are represented within Chicago, particularly forests, aquatics and wetlands. The areas provide habitat for more than 400 species of mammals, birds, reptiles, amphibians and fish.

Natural habitats within Chicago are, in some cases, continuations of much larger landscapes that exist outside the city limits. Natural lands in Cook County and the counties surrounding it are referred to as "Chicago Wilderness" by a coalition of conservation agencies and organizations that collaborate on protecting the area's natural resources. The term refers both to the landscape and to the coalition itself, more formally known as the Chicago Region Biodiversity Council. Natural land and restorable open space in the Chicago area totals more than 200,000 acres, including one of the world's richest concentrations of prairies and oak woodlands.

In 1999, the Chicago Region Biodiversity Council published the *Chicago Wilderness Biodiversity Plan*. One of the key recommendations of the document was for local municipalities to develop policies "that reflect the need to restore and maintain biodiversity." The *Chicago Nature and Wildlife Plan* serves to fulfill this recommendation.

Prairie/Grassland	Savanna	Dune	Naturalistic Planting	Potential Habitat
170 acres	36 acres	22 acres	8 acres	921 acres
An area dominated by grasses or one possessing less than 10 percent tree cover.	An area with 10 to 50 percent tree cover and a grass understory.	A hill or ridge of sand, piled by the wind, that supports plant life.	A landscaped area designed to attract birds and insects.	A site that could be used for habitat restoration.

What Chicago Offers to the Cause of Conservation

Chicago has much to offer the cause of nature conservation, especially the habitat it provides for birds. Endangered and rare species, such as yellow-headed blackbirds and black-crowned night herons, nest in Chicago. Improved habitats could boost the numbers of these and possibly other bird species that are suffering population declines, such as red-headed woodpeckers, which require savanna habitat, and willow flycatchers and blue-winged warblers, which require shrubby areas.

Migrating birds are also attracted to Chicago. How migrating birds manage to find their way from nesting grounds in Canada to suitable habitat in South America remains a mystery. And why so many migrating birds come through Chicago during migration isn't clear, either. It is possible that birds use Lake Michigan as a navigational marker. Birds fly along the edge or over Lake Michigan and at dawn, many stop to rest in lakefront parks. "The green spaces in Chicago are very important to birds," writes Judy Pollock in *Birds of the Windy City*. "Some birds need trees; others need shrubs and flowers. The city has a lot more variety than cornfields. To re-fuel on migration, birds find what they need right here in the parks, gardens, prairies, and wooded neighborhoods of Chicago." The sheer number of birds that pass through Chicago during the months of April and May, and again in September and October is staggering. About 7 million birds representing 300 different species migrate through the city in an average year.

While threatened and endangered flora and fauna already present in the city will always be given highest priority, an additional goal of the plan is for owners of natural areas to provide habitat protection and management for species that have declined, but aren't threatened with immediate extinction yet. Chicago natural areas, with their tendency towards small size and heavy human use are not the preferred place to relocate rare animals and plants. Some reptiles, amphibians, butterflies and other animals may require active reintroduction to suitable habitat if their populations are to be improved.

01

Protect natural habitat

The plan's number one priority is to protect remaining natural habitats in the city. Several methods are outlined, including efforts to:

- Designate the city's natural areas with the newly created "Parks and Open Space—Natural Areas" (POS-3) zoning district.
- Work with the State of Illinois Nature Preserves Commission to designate appropriate city parcels as Illinois Land & Water Reserves.
- Acquire unprotected, privately owned habitat sites where possible.
- Lease unprotected, publicly owned habitat sites to conservation agencies or organizations that provide protection and management.

02

Manage existing open spaces

Management is critical for protected habitat spaces. The plan suggests a multi-pronged approach to:

- Implement or create management plans for all natural sites within the city.
- Improve volunteer programs for management of local natural areas.
- Use the city's built infrastructure to improve biodiversity where possible.

03

Monitor sites and compile research

The plan recommends compiling existing research and conducting new research where necessary to set priorities for restoration and management. Efforts are being made to:

- Produce baseline inventories of all existing natural areas and of all sites slated to undergo restoration.
- Set up programs for all endangered and threatened species to monitor how populations are faring now and over the long term.
- Compile a list of research needs.

04

Educate the public

The plan calls for disseminating useful information about the roles of habitat sites and where they are located. The plan includes recommendations to:

- Increase public awareness of the importance of biodiversity conservation to the environment.
- Coordinate partner organizations to focus on specific goals in the "Chicago Nature & Wildlife Plan."
- Develop outreach plans to particular population groups, such as homeowners, pet owners, gardeners and others.

PROTECT

The Challenge: An abundance of habitat sites and other natural areas in jeopardy of being degraded or used for purposes other than supporting wildlife.

The Vision: Permanent preservation of all natural lands in public ownership, the acquisition or leasing of other areas where possible, and physical improvements that make natural and manmade structures friendlier to wildlife.

Edgebrook Flatwoods (Jin Lee)

Protect Natural Habitat

RECOMMENDATIONS

Immediate	The City of Chicago's new zoning designation for public open space (POS-3) should be applied to habitat sites to prevent their redevelopment for other uses. Site owners, most notably the Chicago Park District, the Forest Preserve District of Cook County and the Illinois Department of Natural Resources, should adopt resolutions or other agreements that designate and preserve the natural area habitats within Chicago that they own. Natural areas that these agencies do not own should be acquired or leased. The State of Illinois' Land and Water Reserve designation should also be applied to select parcels to further reinforce their roles in support of wildlife.	
Within 5 years	» Acquire unprotected natural areas in the Calumet Open Space Reserve and along the western edge of Rosehill Cemetery. » Amend the city's 30-foot river setback requirement and the "Chicago River Corridor Design Guidelines" to require a naturalized riverbank wherever possible. » Promote riparian areas along the Chicago River through shoreline enhancements, specifically at Wolf Point, the North, South and Diversey turning basins, at the West Fork Remnant, along the North Branch and sections of the Chicago Sanitary and Ship Canal.	» Reestablish in-stream habitats by prohibiting the use of motorized vessels along the Upper North Branch, North Branch Canal, Bubbly Creek, Collateral Channel and certain private slips. » Increase the number of areas along the lakefront where the primary use is natural habitat and recreate dunes and wetlands in these areas.

Angelica blooms in savanna at LaBagh Woods (Jill Riddell), »
Chicago River North Branch From Riverbank Neighbors (Jin Lee)

MANAGE

The Challenge: A degraded citywide habitat inventory that falls short of its potential to serve local wildlife.

The Vision: The implementation of management techniques that sustain and expand the viability of native plants, animals and aquatic systems in natural areas across the city.

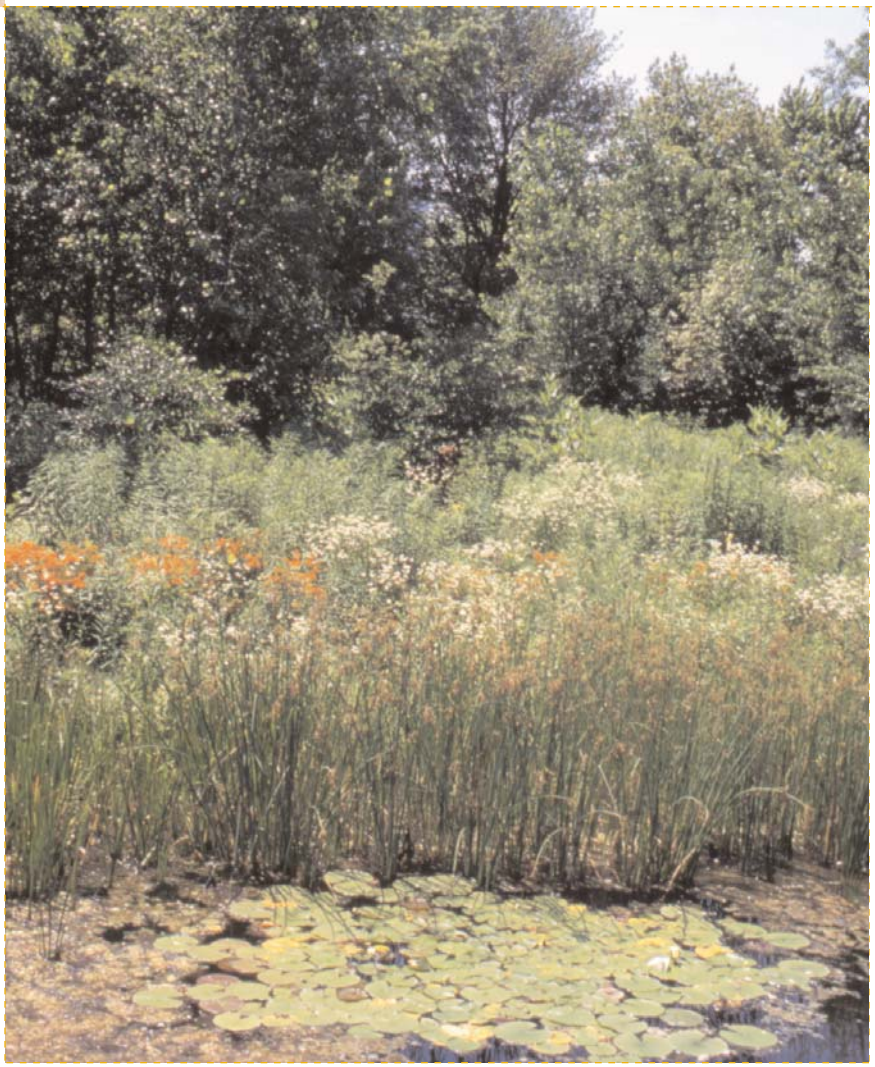
Volunteers restoring the wetland at Bill Jarvis Migratory Bird Sanctuary in Lincoln Park (Chicago Park District)

Manage Existing Open Spaces

RECOMMENDATIONS

Immediate	Existing management plans for habitat sites should be implemented while priorities, goals and plans for other habitat locations are developed through a collaboration of landowners, volunteers, community members and civic organizations. Management activities should be coordinated where possible, especially where several sites are in close proximity to each other, such as around Lake Calumet and along the North Branch of the Chicago River.	
Within 5 years	» Implement existing management plans for the largest, high quality natural areas, such as Powderhorn Marsh, Sauganash Prairie, Bunker Hill Prairie and Edgebrook Flatwoods. » Implement solutions to fish migration impediments caused by the North Branch Dam and Chicago Lock. » Utilize the "Calumet Area Ecological Management Strategy" as a model for wetland restoration across the city. » Utilize recommendations in the "Chicago River Master Plan" to improve habitat in and along the Chicago River. » Increase and improve garbage pick-up at beaches to discourage excessive gull populations that contribute to poor water quality. » Use the city's built infrastructure to improve biodiversity where possible and encourage architects to create designs that are safe for birds and other wildlife. » Ensure that sources for local seeds and plants are in place from suppliers, volunteer growers or a seed-sharing network. Also participate in and help publicize plant giveaways to community groups.	» Help non-profit organizations continue to work with owners of public natural areas that do not have conservation as a part of their missions. » Publish management training manuals for volunteers through the cooperation of The Nature Conservancy, Chicago Wilderness, Openlands Project, Chicago Park District, Forest Preserve District of Cook County, and other appropriate partners. » Increase participation in Clean Air Count's "Household" program and Openlands Project's "Neighborhood Open Space Planning" and "Backyard Biodiversity" programs. » Encourage owners of private buildings to install "green roofs," "bat boxes," "nesting poles," "nesting pads," "artificial chimneys" and other structures used by various species for nesting purposes. » Encourage owners of public buildings that are commonly used by birds, such as bridge houses and beach structures, to maintain and design them in ways that are conducive to nesting. » Investigate the reintroduction of appropriate species to suitable water and lands.

» Look for ways to encourage landowners adjacent to natural areas, both public and private, to use natural landscaping. » Establish environmental support teams that can help select plants, disconnect downspouts and perform projects related to improving biodiversity. » Ensure the viability of local sources used for the translocation of native species, such as butterflies and frogs, by coordinating with government authorities to create a stocking program or through other means. » Explore ways to reduce the negative effects of Chicago's ambient light on nocturnal animals and insects. » Consider measures that discourage local activities that reduce biodiversity in other parts of the world, such as an ordinance that prohibits the use of rainforest hardwoods or other imported materials that aren't sustainable.	» Launch a citywide campaign focused on how homeowners can improve the cause of biodiversity. » Create a program to identify plant and seed sources so buyers know if they are local. » Consider how architects and developers can be encouraged to explore building designs that are conducive to biodiversity and wildlife. » Expand local sources for rain barrels, native plants and other materials necessary for the success of management projects. » Encourage efforts to create, restore and manage landscape and habitat to benefit migratory and nesting birds of conservation concern with key landowners.	Long-Term
To increase the number of volunteers that help perform management activities at habitat sites, opportunities and responsibilities should be communicated through expanded on-site signage, mailings, brochures, workshops, the Internet and neighborhood events, especially near areas most in need of management assistance. Training activities offered from separate organizations should be coordinated and volunteers should be recognized for their accomplishments.		For Volunteers



For the Water

As an essential ingredient to healthy habitats, Chicago's water resources should be improved according to the recommendations of "Chicago's Water Agenda 2003." As part of the process, landowners and agencies that regulate public waters should work together to incorporate habitat improvement practices into programs that remove debris and stabilize the banks of area waterways. They should also study the effects of regional dams and locks on fish migration, and whether in-stream oxygen levels warrant additional aeration to promote fish and other aquatic populations. Legislation that prohibits the sale of invasive and nuisance species should be coordinated through ordinances and publicized through informational materials printed in numerous languages. The Metropolitan Water Reclamation District should also include biodiversity in its ongoing study on the effects of varying water levels.

For the Birds

Chicago's resident and transient bird population can be protected and enhanced through the implementation of techniques that foster their survival in an urban area. Among the most important are methods to diminish bird collisions with high-rise buildings.

While the number of annual bird collisions with Chicago high-rises is undetermined, it is well known that skyscraper windows pose a significant threat to birds that mistake reflections for air space. Existing data on fatal bird collisions, including the time and locations of strikes, along with related building features, should be analyzed and addressed in conjunction with ongoing research by the U.S. Fish & Wildlife Service and Chicago Department of Environment.

As part of the effort, the City of Chicago's "Lights Out" program should be more vigorously publicized to communicate environmental benefits from turning off decorative exterior lighting and utilizing interior shades. High-rises should be monitored and recognized for complying with efforts to reduce the problem.

Additionally, city lighting codes for high-rise construction sites, along with Leadership in Energy and Environmental Design (LEED) standards, should be reviewed and possibly amended to further promote design elements that protect birds, such as the use of frosted or fritted glass, downward-angled panes, decorative markings, and boldly-colored interiors and decorations.

« Montrose Beach Dunes in Lincoln Park and South Shore Nature Sanctuary Wetland (Jin Lee)

MONITOR

The Challenge: Limited understanding of the impact of ecological restoration of habitat sites in an urban area.

The Vision: An increase in scientific data that helps to make responsible decisions and to set priorities for habitat improvement efforts.

Powderhorn Marsh (City of Chicago)

Monitor Sites and Compile Research

RECOMMENDATIONS

Immediate	To increase understanding about native plant and animal species in Chicago and the ecological conditions they require, monitoring and research must coincide with the protection and management of the city's natural habitats. Local universities and other research institutions should help investigate issues and set priorities for ongoing management goals. Because much remains unknown about native plant and animal species, the ecological conditions they require and what impact Chicago's human population has upon their survival, research should serve to resolve immediate goals and anticipate long-term needs.	
Within 5 years	» Produce baseline inventories of all existing natural areas and sites slated to undergo restoration in order to compare current and future conditions. » Expand and integrate research among institutions, agencies and individuals based on a central record of the research needs of Chicago Wilderness' monitoring taskforce. » Utilize, distribute and support data collection from volunteers and measure progress using indicators developed for Chicago Wilderness' "Biodiversity Recovery Plan."	» Set up programs for all endangered and threatened species to monitor how populations are faring now and over the long term. » Compile a prioritized list of research needs from Chicago Department of Environment, Chicago Park District, Forest Preserve District of Cook County, Illinois Department of Natural Resources, other appropriate government agencies, and private sources.

- Participate in regional, national and international studies, such as monitoring species or groups of animals that are not endangered or threatened but subject to global concern.
- Determine how pollutants in and around Lake Calumet impact birds that feed in the area.
- Research how water and sewage treatment processes could better benefit wildlife, particularly shorebirds.
- Explore how restoration efforts benefit migratory birds.
- Compare how isolated natural areas compare with those near a cluster of small sites like private yards and school habitat gardens.
- Determine habitat size requirements for certain targeted animal species.

- Determine risks to the genetics of native plants when seeds and plants from other areas are introduced.
- Determine what effect natural areas have on nuisance species and vice versa.
- Study how use by people and domesticated animals affects the biodiversity of selected natural areas.
- Study the relationship between coyotes and diminishing populations of nuisance species.
- Determine how waterway sediments can be safely remediated.
- Assess the knowledge and attitudes of Chicago residents regarding biodiversity and landscape issues.

Long-Term

Volunteers at Montrose Point Bird Sanctuary (Chicago Park District)

EDUCATE

The Challenge: A lack of comprehension by city residents and workers about wildlife habitats in Chicago and how they relate to local, regional and worldwide ecosystems.

The Vision: To increase Chicagoans' understanding of how nature and wildlife benefits their own households, places of work and neighborhoods.

Junior Earth Team collecting seeds at Bobolink Meadow in Jackson Park (Chicago Park District)

Educate the Public

RECOMMENDATIONS

Immediate	Numerous government agencies, non-profit organizations and educational institutions that already promote the roles of city natural areas could be more effective through new and expanded public-private partnerships. While education needs are numerous, priorities center on an increased awareness among students regarding the importance of biodiversity conservation to the local, regional and global environment. Adults should be enlightened about how their behavior and consumption habits affect wildlife and how relatively simple efforts around the home and workplace can benefit nature, such as eliminating harmful pesticides and invasive plants, replacing pavement with more porous surfaces, and controlling pets that threaten wildlife.	
Within 5 years	» Appoint a liaison to work with Chicago Public Schools to promote outdoor nature activities and provide "service learning credits" to students that take part in these activities. » Reach out to the Catholic Archdiocese and other parochial, private, and independent schools to promote outdoor nature activities. » Improve teacher access to existing habitat curricula and develop a new teacher certificate or endorsement for use of such curricula.	» Improve and expand Chicago Wilderness' "Teacher Training Hub" on the Internet by including gardening, biodiversity and related information. » Work with the City of Chicago's "After School Matters" and "Gallery 37" programs to include workshops that focus high school students' attention on local nature, biodiversity, greening and gardening. » Use the "Calumet Stewardship Initiative" as a model for focusing partner organizations on a specific goal in a certain location. The effort would serve to concentrate resources for quickly demonstrated environmental benefits.
Long-Term	» Create a resource center where teachers can locate educational materials and participate in workshops. Possible locations include North Park Village Nature Center, the proposed Ford Calumet Environmental Center, the Chicago Center for Green Technology, and the Chicago River Center at the Michigan Avenue Bridge House. » Target information to owners of large tracts of land, homeowners, landscape and garden-related businesses, elected	officials, religious organizations, community gardeners, and pet owners about the importance of biodiversity conservation. » Increase awareness of Chicago's visitors about urban habitats and the importance of biodiversity conservation through media outreach and informational materials placed at select tourist destinations. » Build on existing educational programs at Chicago public libraries.

Interpretive signage at Burnham Park Nature Sanctuary (Jill Riddell), Wetland restoration » at Montrose Point Bird Sanctuary in Lincoln Park (Chicago Park District)